

THE AGING OF AN ECONOMIST

BY

DAVID COLANDER

It has been almost fifteen years since Arjo Klamer and I published “The Making of an Economist” (1987), which described the graduate school experience of economics students at six top graduate schools. The students who responded to that survey are now in their late thirties and early forties, and hence are in the prime of their careers. This paper follows up on our earlier study; it reports the results of a survey that was sent to those respondents who voluntarily listed their names on the previous survey and said that they would be open to further contact.¹ It is meant to capture the respondents’ reflective views of the profession and their graduate school experience, along with how they have changed over the past fifteen years. To encourage participation, the survey was relatively short. To facilitate comparisons, it repeated a number of the questions asked in the previous survey. (Appendix A reproduces the survey.)

The division of responses by school in this survey differed from that in the original survey. In the 1985 survey (conducted in 1985, published in 1987) the percentage division of respondents among schools was: Yale, 7%; MIT, 22%; Columbia, 12%; Chicago, 15%; Harvard, 22%; and Stanford 22%. In the current survey the percentages were: Yale, 5%; MIT, 16%; Columbia, 5%; Chicago, 13%; Harvard, 29%; and Stanford, 33%. As you can see, the representation of Stanford and Harvard rose while the representation of the others fell. To ensure comparability of this subgroup with the original study, I checked the previous surveys of the subgroup, and where relevant differences exist, I present both the subgroup responses and the original survey response.

Despite the limitations of surveys in general, and of this survey in particular, I believe that it offers important insights into the economics profession, and that its results are in large part descriptive of how economists feel about their

I would like to thank Kaia Laursen, Greg Wiener, and Ryan Petersen for research assistance on this paper, and also the Christian A. Johnson Foundation for providing funding for it.

¹Of the original survey of 212 students there were approximately 97 students who listed their name and address. Most had moved so I had to use a variety of sources to find the latest address. These included the AEA directory, university alumni offices, and search directories on the Internet. This reduced the number to 71. Of those 71, 45 responded, some to the initial mailing and others to one of two follow-up requests. Eight surveys were returned marked “addressee unknown,” meaning the response rate of those who received it was 45/63. While the response rate is high, the sample size is small, and one should be hesitant to use the results as anything other than a quantitative glimpse of the modern economics profession.

profession.² Given the inherent weaknesses of surveys, and of empirical work in general, these broader checks are a necessary component to the degree of belief that can be given to the results. Given these broader checks, I believe, as was the case with our previous survey when it was later expanded on by the COGEE Commission with a much more detailed and scientific survey, that the results of a more inclusive study will not significantly change the picture of the profession portrayed by this study.

I. PROFILE

The composite economist represented in this survey is a 39-year-old male who works in academia. In the survey, 88% of the respondents were male; 12% female. In the original sample 19% were women, which suggests that women have tended to leave economics at a greater rate than men; this is consistent with general data that the percentage of women declines as economists move up the ladder.³

The respondents are primarily academics, with 62% in academia (13% in liberal arts schools and 49% in universities), 25% in government, and 13% in private business. This is consistent with where, fifteen years ago, the original sample thought they would be now. (In the original survey 53% were planning to pursue an academic career, 33% were planning to go into policy-related work, 17% into business, 8% into research institutions, and 2% into journalism.) Those in academia are primarily full and associate professors, although some have adjunct and temporary positions. Those in business and government vary in their positions from CEOs and high-ranking political appointees to staff economists. Most have had more than one job in the past fifteen years.

While the aggregate numbers remain comparable, many did not end up where they thought they would. For example, in the previous questionnaire one third of those at a university had indicated another preference as to where they would like to be.

II. POLITICAL ORIENTATION

The political orientation of this subgroup in graduate school was 50% liberal, 20% moderate, 5% conservative, 20% radical, and 5% other. (This was slightly

²To check to see if the results were reasonable, I have distributed this paper to a number of economists. For the most part they have found it consistent with their view of the profession. It should be pointed out, however, that a number of potential biases exist in the survey results if one is using them to interpret what economists believe today. First, the survey is of graduates from top economics departments, and does not necessarily reflect the broader economics profession. It is likely that graduates from top programs are more satisfied with economics than graduates from other programs. Second, since it was easier to find addresses of students who had remained in the economics profession, it is more likely to include "satisfied customers," since the address selection bias is toward those who remained in the profession. This bias was also in the first survey; there, respondents suggested that if we had contacted students who dropped out we would have gotten a somewhat more negative reaction. This bias may be partially offset by the fact that the survey was voluntary, as was the first survey; those who are less happy with the profession, and more concerned with the state of the profession, are more likely to have filled out both the original survey and this survey.

³There is also the possibility that because of name changes by women who married, that they were harder to track and thus there is survey bias.

different than the original group, which was 47% liberal, 22% moderate, 15% conservative, 12% radical, and 4% other.) The political orientation of the subgroup was similar, with 55% considering themselves liberal, 18% considering themselves conservative, 11% considering themselves libertarian, 7% considering themselves radical, and 9% considering themselves other. (The choices given respondents were different in the two surveys: moderate was not given as an option in the second survey but libertarian was.) From another question, however, one can see a definite movement toward conservatism. In response to the question of whether they believed they had changed their political views 27% said they have become more conservative and 11% said they had become more liberal, with the remainder unchanged. A typical comment of those who said they had become more conservative was, "Fifteen years of teaching (and some research) on economic development have left me more skeptical than previously about the merits of 'statist' or even 'activist' government policy."

These data are consistent with George's Stigler's observation (1975) that economics tends to make individuals more conservative. Of course, aging has also been associated with conservatism, and in the last fifteen years there has been a definite swing toward conservatism in the general population, so the effect of being an economist on becoming more conservative is not definitive.

Liberal economists were relatively more likely to be in government than in academia. (Of those economists who had positions in government, 73% listed themselves as liberal, whereas 47% of the economists in academia considered themselves liberal.) Radical economists were mostly found in academia.

III. VIEWS OF SUCCESSFUL ECONOMISTS

For the most part the respondents had a mature understanding of success and saw it as multifaceted. A number noted that there were many possible ways to be successful and it depended on what one did. The question "What is your idea of a successful economist?" brought forth comments such as the following: "Someone able to apply economics to answer interesting questions and communicate effectively"; and "Someone who makes careful, creative contributions to knowledge or social policy. Reflective, open-minded, rigorous and flexible." Another wrote, "Someone who doesn't care about getting prizes or editing journals, who helps to understand how the real world works." Several respondents were more direct: one wrote, "Alas, I've been conditioned to believe that 'Successful' = 'lots of publications.'" Another wrote: "Academic success: achieve tenure, continue publishing, become an administrator."

In response to the question regarding which economist they most respected the top nine choices were, in order of number of times mentioned, Kenneth Arrow, J. M. Keynes, Paul Krugman, Larry Summers, Adam Smith, Robert Solow, John Stuart Mill, Paul Samuelson, and Robert Lucas. Their choices in the original survey were quite similar and included all except Krugman and Summers, who were both too young to be considered in the earlier survey. Marx dropped substantially in the rankings; in this subgroup he was selected by eight of the respondents last time, and by only one this time.

The fact that Keynes stands so high even though Keynesian economics is not significantly taught today suggests that Keynes's approach to economics remains influential at least among those who learned it in graduate school. What students liked about Keynes in both surveys was his scope of vision, his political influence, his practical passion, and his real-world success, which are very similar characteristics to those given in the earlier survey.

IV. VIEWS OF GRADUATE EDUCATION

One of the much remarked upon findings of the first study was the dissatisfaction with the state of graduate education. That dissatisfaction was somewhat reduced, or at least modified, in this study. While twice as many respondents still had a negative view of graduate school as had a positive view, there seemed to be a greater acceptance in their written comments than there was for the same subgroup when they were in graduate school. Perhaps from the vantage point of a teacher, as compared to that of a student, people are more accepting of, and less dissatisfied with, the institution of graduate school, although they still recognize the problems. There was a sense that professors know that they are not doing as good of a job teaching as they could be doing, but that they also recognize that the incentives for success are not to significantly improve their teaching, or to spend the time changing the institutions to make them better, but are instead for research.

Typical comments to the question regarding their view of graduate school included: "I love teaching and grad education. I think our students learn a great deal. But I think often grad teaching is poorly focused and lazily executed. I don't think my views have changed much since grad school"; and "The importance of institutions and policy is too often neglected, as is history of thought"; and "It is about the same or a little worse in terms of overemphasis on technical/mathematical material." A couple of respondents remarked that some programs had changed and that "more emphasis is placed on empirical work and on linking students with faculty earlier and more systematically." Another comment was, "There is still an overemphasis on technique at the expense of insight, but in many ways the discipline seems to have broadened and become more diverse and creative in recent years."

A large number of respondents outside academia refrained from answering the question about graduate education. Many of them pointed out that they were so removed from it that they felt unable to make relevant comments. It simply is no longer part of their lives, and they do not follow it carefully. Not surprisingly, those who did comment felt that "not enough emphasis was placed on 'practical' economics." One respondent stated: "It seems to be more systematic and more difficult, but it is fraught with similar tensions." Another stated "My view is that graduate education has improved but the gap between the graduates and practitioners has gotten worse. Ph.D. programs are great preparation for teaching, but a mixed preparation for other careers." Another response was: "The training I received on thinking clearly and problem solving has been very relevant. The specific content of my economics training has been less relevant."

One academic respondent summed up the views of many with the following long, insightful statement:

My current view is similar to what I thought as a graduate student. Graduate economic education is aimed at preparing students for academic careers. In writing papers for publication in scholarly journals, academics are trying to solve the following problem: show that starting from a set of not completely implausible assumptions can lead one to an interesting (i.e., novel or counter-intuitive) result. No one else (i.e., private sector economists, government economists, policymakers, economics undergraduates) has that as an objective. Thus, unless and until they adopt this objective as their own, the people listed in brackets above find much of academic economics misdirected, irrelevant, or esoteric. This leads to some understandable frustration. Nonetheless, having a large group of people pursue this objective has (perhaps inadvertently) generated techniques and insights that are valuable outside academia. If I knew how to make academic economics more directly relevant to what non-academics are interested in I would push for some changes. But I don't know how to do that. Indeed, there may not be any way of doing that.

V. CHANGING VIEWS OF ECONOMICS AND OF THE PROFESSION

While the respondents' view of graduate economics education has not changed significantly, their view of the economics profession has become more positive. The same respondents who had negative comments on graduate education were much more positive about the economics profession and the relevance of their graduate training for their current jobs. When asked, "How relevant would you say your graduate school training is for your current job?" seventy percent felt it was very relevant, and none felt that it was not especially relevant. Government economists were more likely to answer "reasonably" rather than "very" relevant, while academic economists were much more likely to answer "very" relevant. It seems that those who stay in the profession learn to appreciate their training, especially if they are in academia. One student wrote, "I was an extremely skeptical graduate student, but have found the economics I learned a very powerful tool in all my work." Only 2% said they would not do it again, with 20% unsure. This compares to 6% in the first survey who said they would not do it again and 21% who said they were unsure.

To get a sense of their changing views of the profession, four of the questions asked were almost identical to those asked in the earlier survey; the following sections present the answers to those questions.

Economist's View of Economics as a Science

Table 1 considers the opinions of students about economics as a science. It has four separate response sets: (1) what the respondents said in the original study, (2) what the subset of respondents said in the original survey, (3) what the subset

Table 1. Opinions of Economics as a Science

	What the original survey said in graduate school				What the subgroup said in graduate school				What the subgroup thought they said in graduate school				What the subgroup said now			
	Str	Agree	Dis	No	Str	Agree	Dis	No	Str	Agree	Dis	No	Str	Agree	Dis	No
	Agr	Smw	Agr	Op	Agr	Smw	Agr	Op	Agr	Smw	Agr	Op	Agr	Smw	Agr	Op
Neoclassical economics is relevant for the economic problems of today	34%	54%	11%	1%	47%	47%	4%	2%	39%	46%	4%	11%	54%	39%	7%	0%
Economists agree on the fundamental issues	4%	40%	52%	4%	4%	31%	58%	7%	9%	54%	22%	15%	17%	61%	20%	2%
There is a sharp line between positive and normative economics	9%	23%	62%	6%	4%	29%	60%	7%	13%	39%	33%	15%	15%	33%	46%	7%
Learning Neoclassical Economics means learning a set of tools	N/A	N/A	N/A	N/A	33%	42%	16%	9%	35%	43%	11%	11%	33%	52%	15%	0%
Economics is the most scientific discipline among the social sciences	28%	39%	19%	14%	20%	33%	29%	18%	43%	33%	13%	11%	35%	39%	17%	9%

of respondents thought that they had answered on the original study, and (4) what they believe now.

It shows that there was significant change in how much agreement the respondents believe exists. Whereas only 4% of the subgroup strongly agreed and 58% disagreed with the proposition that economists agree on fundamental issues, now 17% strongly agreed and only 20% disagreed. There are probably two reasons for this change. First, today economists do tend to agree more; the major divisions in macro that characterized the 1980s have ended. Second, graduate school is a time where many different views are tried out, so disagreement probably seems greater in graduate school.

A somewhat smaller movement occurred in whether the respondents saw a sharp line between positive and normative economics, with an increase from 4% to 15% in those who strongly agree, and a decrease from 60% to 46% who disagree. Similarly, there was an increase in the percentage of those who strongly agreed that economics is the most scientific of the social sciences from 20% to 35%. Interestingly, their perceptions of how scientific they had thought economics to be in graduate school were much higher than what they had actually thought.

There were some differences between academic and government economists in what they thought in graduate school about the strength of their beliefs concerning the relevance of neoclassical economics in graduate school. Forty-three percent of future academic economists, but only 18% of future government economists in the subgroup, thought they strongly agreed that neoclassical economics was relevant in graduate school. (In actual fact 36% of future government economists strongly agreed.) Their current views are quite different; 61% of academic economists and 54% of government economists strongly agreed that neoclassical economics is relevant. Those from the 1987 study who became government economists did, however, see economics as less scientific; 32% of future academics strongly agreed with the proposition that economics was the most scientific of the social sciences, whereas 0% of the future government economists agreed. This somewhat evened out with 44% of academics and 27% of government economists strongly agreeing with the proposition now.

Economist's View of Economic Assumptions

Table 2 reports the respondents' views about various economic assumptions. It reports three separate sets of responses: (1) what the respondents in the original survey said in graduate school: (2) what the subgroup said in graduate school, and (3) what the subgroup says now.

Table 2 shows less dramatic changes than Table 1, but it still shows a slight increase in the number seeing the neoclassical assumption of rational behavior as very important, and for the subgroup a decrease from 13% to 4% of those who saw economic behavior according to conventions as very important. Those who view the rational expectations hypothesis as very important increased slightly. The assumptions of price rigidities, cost mark-up pricing, and extracting surplus labor declined. The last is consistent with the elimination of Marx as one of the most admired economists.

Table 2. Importance of Economic Assumptions

	What the original survey said in graduate school					What the subgroup said in graduate school					What the subgroup said now				
	Very Imp	Mod Imp	Un- Imp	Don't Know		Very Imp	Mod Imp	Un- Imp	Don't Know		Very Imp	Mod Imp	Un- Imp	Don't Know	
The Neoclassical assumption of rational behavior	51%	41%	7%	1%		51%	36%	9%	4%		61%	35%	2%	2%	
Economic behavior according to conventions	4%	25%	57%	15%		13%	56%	7%	24%		4%	63%	13%	20%	
The rational expectations hypothesis	17%	53%	25%	5%		11%	51%	27%	11%		15%	59%	22%	4%	
Imperfect competition	40%	55%	4%	2%		33%	56%	4%	7%		39%	52%	9%	0%	
Price rigidities	27%	60%	10%	3%		22%	56%	13%	9%		11%	72%	15%	2%	
Cost-mark-up pricing	9%	46%	26%	18%		7%	42%	31%	20%		2%	43%	30%	24%	
The goal of a capitalist firm is to extract surplus value from workers	N/A	N/A	N/A	N/A		4%	29%	51%	16%		2%	11%	74%	13%	

The questions about neoclassical assumptions provoked a number of written comments that suggest there has been an opening up of the profession. Two such comments were: “What we do today is largely model ‘neoclassical,’ isn’t it? But, more open today than 15–20 years ago”; and “Clearly, neoclassical economics is a set of tools-but it’s a lot more than that, too. Since grad school, I think there have been two trends: one, to admit more non-neoclassical elements into economics; and second, to extend neoclassical analysis to a broader range of areas and disciplines outside of economics.” So while economics is still the same as it was, it seems that the respondents believe that it is more open to new ideas, and more inclusive of broader issues than it was previously.

There were some differences between government and academic economists in their responses to these and other questions, with academic economists exhibiting much more disagreement in their answers to the questions. For example, for academic economists 19% saw rational expectations as very important, 50% saw it as moderately important, and 31% saw it as unimportant. For government economists, 9% saw it as very important and 73% saw it as moderately important (18% had no opinion). I suspect this smaller amount of disagreement among government economists reflects the fact that government economists spend less time in technical modeling and thus do not form such strong opinions about particular assumptions

Perceptions of What Makes a Successful Economist

Table 3 reports the respondents’ views of what skills put students on the fast track in graduate school today, and of what puts economists on the fast track at their jobs. It also compares those responses to those in the original survey and to what the subgroup believed in graduate school would put them on the fast track. Thus, there are four sets of responses in the table: (1) what the original survey results were, (2) what the results for the subgroup in the original study were, (3) what the subgroup thinks would put a student on the fast track in graduate school today, and (4) what the subgroup thinks would put an economist on the fast track in their jobs today. The answers are somewhat expected, but are nonetheless interesting.

Being smart in the sense of being good at problem solving remained the element of success that respondents saw as most important. The respondents give this an even higher ranking in their advice to graduate students, and in their current jobs, than they did when they were in graduate school, with 58% seeing it as very important in graduate school, 87% seeing it as very important for graduate students today, and 67% seeing it as very important for their current jobs. Problem solving is clearly a central element in what economists do and how they perceive themselves.

The nature of those problems, however, changes significantly as economists progress in their careers. In graduate school 53% saw excellence in mathematics as very important and in their advice to graduate students that percentage increased to 83%. But in their jobs, the percentage who saw excellence in mathematics as very important fell to 22%. It seems that graduate school has a

mathematical filter; both in the jobs and in graduate school problem solving is important, but in graduate school the problem solving is more mathematical.

The ability to make connections with prominent professors was seen as much more important in graduate school than on the job, as could be expected. More interesting is the major change that occurred in respondents' opinions about the role of being interested in, and good at, empirical research. In graduate school 11% strongly agreed that this was important; on the job 46% strongly agreed that this was important. The importance of empirical work is seen as greater on-the-job than in graduate school today, with only 20% of the respondents strongly agreeing that it is important in grad school today. So there has been some movement toward the empirical skills, but mathematical skills continue to predominate as the most important skill in graduate school. This difference probably reflects the difficulty of supervising empirical work; it remains a skill that needs on-the-job training.

Two of the most cited statistics from our original study were the importance given to a broad knowledge of the economy and the importance given to having a thorough knowledge of economic literature to getting on the fast track. In that original study, 3% believed that having a thorough knowledge of the economy was very important, and 10% of the respondents considered having a broad knowledge of the economics literature as very important. (These responses were similar to the subset with 0% and 9% respectively seeing having a thorough knowledge of the economy and having a broad knowledge of the economics literature as very important.)

The respondents continued to hold these same beliefs for graduate students today: 4% saw having a thorough knowledge of the economy as very important and 13% saw having a broad knowledge of the economics literature as very important. On the job however, the importance of both of these skills increased significantly, with 24% of the respondents seeing having a broad knowledge of economics literature as very important and 28% seeing having a thorough knowledge of the economy as very important. Still, even in their jobs 35% see having a broad knowledge of the economics literature as unimportant and 24% see having a thorough knowledge of the economy as unimportant.

Consistent with this change, the kinds of journals they prefer to read have changed, and less technical journals such as the *Journal of Economic Perspectives* and applied economics such as *Brookings Papers* tied as running the articles they are most interested in. Other skills that respondents mentioned in written comments included the ability to write and speak effectively, persistence, ability to work hard, creative thinking, and organization.

Not surprisingly, the importance given to various factors depended on the jobs respondents hold. Seventy-one percent of academics see being smart in the sense of being good at problem solving as very important, while only 54% of business economists see it as very important. There was a similar difference for excellence in math. Twenty-eight percent of academics see it as very important; 8% of government economists see it as very important. Being knowledgeable in a particular field is seen as very important by 39% of academics, while only 8% of government economists see it as very important.

The relative rankings were reversed for valuing knowledge of the economy:

75% of government economists see having a thorough knowledge of the economy as very important, with only 18% of academic economists seeing it as very important. Similarly, 34% of academic economists see having a thorough knowledge of the economy as unimportant whereas 0% of government economists see it as unimportant.

Opinions on Policy

Table 4 presents economists' opinions on policy over time. It consists of three sets of responses: (1) the original survey responses, (2) the subgroup's responses in the original survey, and (3) the responses of the subgroup in the current survey.

A number of changes show up in Table 4. In graduate school 40% of the respondents agreed without reservation that fiscal policy can be an effective tool, while now only 20% agreed without reservation. Given that in the original study the students were less positive on fiscal policy than the profession was (35% saw it as effective compared to 65% of American economists who saw it as effective (Klamer and Colander 1990; p. 22)), these changes suggest that fiscal policy's effectiveness continues to decline in economists' view.

A second change worth noting occurred in respondents' views about the distribution of income. In graduate school 53% of the subgroup agreed without reservation that the distribution of income should be more equal; today 30% agree without reservation. Their views on the minimum wage did not change significantly: The number believing without reservation that it increased unemployment increased only slightly, from 29% to 33%. For economists, however, this is a substantial decline compared to the 68% of American economists that Frey and al. (1984) found believed without reservation that the minimum wage increased unemployment in the 1980s.

There was, however, a significant rise in the percentage of respondents (from 36% to 61%) who agreed that tariffs and import quotas definitely reduce economic welfare. This was much closer to the movement than could have been predicted from the difference between graduate students and the profession that showed up in the earlier study, where in graduate school 36% of the respondents saw it as definitely true, while 81% of economists saw it as true (Klamer and Colander 1987, p. 22). In graduate school, where one learns the models, one sees the ambiguities in theory; in practice one sees the way tariffs work.

Liberal policy views — support of wage price controls, worker democracy, and the belief that the market system discriminates against women — decreased in importance, which is consistent with the movement toward conservatism that was remarked upon earlier.

School Differences

There were insufficient responses to report percentage differences among schools in this survey. Thus I do not report in tabular form the division of responses by school. I will, however, briefly list those differences that appeared substantial,

Table 4. Opinions on policy

Economic opinions	What the sample said in graduate school				What the subgroup said in graduate school				What the subgroup said now			
	Agree with res		Dis-agree opinion		Agree with res		Dis-agree opinion		Agree with res		Dis-agree opinion	
	Agree	res	Dis-agree	opinion	Agree	res	Dis-agree	opinion	Agree	res	Dis-agree	opinion
Fiscal policy can be an effective tool in stabilization policy	35%	49%	11%	5%	40%	40%	9%	11%	20%	50%	22%	9%
The Federal Reserve Bank should maintain a constant growth of the money supply	9%	34%	45%	12%	9%	40%	42%	9%	9%	22%	54%	15%
The distribution of income in developed nations should be more equal	47%	32%	14%	7%	53%	29%	13%	4%	30%	35%	24%	11%
A minimum wage increases unemployment among young and unskilled workers	34%	39%	18%	9%	29%	38%	22%	11%	33%	45%	11%	11%
Tariffs and import quotas reduce general economic welfare	36%	49%	9%	6%	36%	44%	4%	16%	61%	35%	0%	4%
Inflation is primarily a monetary phenomenon	27%	33%	29%	11%	22%	36%	31%	11%	52%	26%	17%	4%
Wage-price controls should be used to control inflation	1%	17%	73%	9%	2%	18%	73%	7%	0%	2%	96%	2%
Worker democracy will increase labor productivity	13%	40%	22%	24%	11%	51%	22%	16%	7%	20%	37%	37%
The market system tends to discriminate against women	24%	27%	39%	10%	22%	36%	38%	4%	11%	33%	48%	9%
The capitalist system has an inherent tendency toward crisis	8%	23%	59%	13%	9%	27%	56%	9%	7%	17%	61%	15%

although I caution the reader that these are based upon limited information.⁴ I have checked the responses both with the original sample and with the sub-sample, to eliminate sub-sample bias. Some substantial school differences are:

- Stanford graduates saw economists disagreeing on fundamental issues more than other schools.
- MIT and Stanford graduates saw economics today as more primarily model building than did Harvard and Chicago students.
- Harvard and Chicago graduates felt the strongest about the importance of empirical research.
- MIT graduates saw being knowledgeable about one particular field as especially important compared to the other schools.⁵
- Stanford graduates saw a broad knowledge of the economics literature as less important than did graduates of other schools.
- MIT and Chicago graduates saw a thorough knowledge of the economy as relatively less important than did other schools.
- Stanford graduates saw the assumption of rational expectations hypothesis as least important; Chicago graduates saw it as the most important.
- Chicago graduates continued to see economics as the most scientific discipline, compared to other schools.
- Chicago graduates continued to have the strongest belief that inflation is primarily a monetary phenomenon.
- Chicago graduates remained the strongest in their belief about the ineffectiveness of fiscal policy.
- Chicago graduates were the strongest in their belief against the distribution of income in developed countries being more equal, with Stanford students the strongest in their belief that income should be more equal.
- Chicago graduates had a much stronger view that the minimum wage increases unemployment and that tariffs and import quotas reduce economic welfare, with all Chicago students strongly agreeing.
- MIT graduates were the strongest believers that the market system tends to discriminate against women.

Some Thoughts on Implications for Graduate Study of Economics

Our original study provoked much discussion in the profession. It played a role in the establishment of the COGEE Commission (Hansen 1991; Krueger 1991), which studied the role of graduate economic education. The same view of the lack of connection between the economy and the work one does in graduate school that existed in the 1980s shows up here, but there is far less of the concern about changing it. This partially reflects the change in perspective

⁴ Because of the low number of responses from Columbia and Yale, I do not include them in any discussion, so the schools being compared are Harvard, Stanford, Chicago, and MIT.

⁵ We did not notice this distinction in the first study, but it was there. In the original study sub sample, MIT students saw success in economics as dependent on being knowledgeable about one particular field much more than did students at other schools. It seems that MIT emphasized specialization more than did other schools.

from student to professor, but I believe it also reflects the fact that there actually is less concern. In response to the ferment of the 1980s, while there was much discussion, there was little in the way of change. Some schools slightly modified their programs; others introduced some additional counseling in the initial year (Colander 1998). But there was no revolution in graduate economics education, and, if anything, the profession continued in the same direction it was going in the past, with more mathematical and theoretical work in the first two years.

One of the changes that I believe has occurred is in the selection criteria of who goes on to graduate school. Whereas before, a good undergraduate who was interested in policy, but not particularly interested in the fine points of theory or of math, would often consider graduate economics as a career; today this happens far less frequently. The majority of students entering graduate economics programs have significant mathematical training and are entering into graduate school with a good understanding of what they will be experiencing. Information about the character of graduate education in economics is better diffused; thus the shock for students is less. Those who have chosen economics are happier with their choice. In short, the students have changed to fit graduate school, rather than graduate school changing to fit a broader student policy interest. The result is that fewer U.S. students have gone on to graduate school, and many more beginning graduate students have significant training, such as M.A.s in mathematics. These changes have made for less dissention in the U.S. profession.⁶ That, in turn, has led to an easier environment within which to teach, and that easier environment, in my view, accounts for the more positive view of the profession, even though graduate school has not changed.

The cost of this structure is that there is a mathematical filter on who enters graduate school, which changes the mix of individuals who become economists. The intelligent generalist with good insights and sensibility is weeded out.⁷ Graduate school is a defining experience. It shapes the way students think and teaches them the problem solving techniques that are the essence of the way an economist thinks. One does problem solving in both graduate school and in the real world, but in graduate school the problem solving is more mathematical.

As students get into the profession, they recognize the importance of institutions and of literature—life does not center around problem sets—and they learn on the job. Perhaps that is the way it has to be, but there seemed to be a hope expressed by the respondents that there was a better way.

My particular view is that there remains a need for more diversity in graduate economic training, perhaps with some schools focusing on preparing students to work in government, policy research institutions, and teaching in liberal arts schools, and others on preparing students to do pure theory. But at top schools that has not happened; all seem to compete on one dimension. This continues

⁶ That has not necessarily been the case elsewhere. In France, students have recently revolted over many of the same issues that underlay the concern in the United States in the 1970s and 80s—the lack of relevance and the over-concentration on math in the first years of graduate school.

⁷ See Colander (1998) for a further discussion of this point.

because, despite the faults of graduate education in economics, it seems to be working acceptably. Despite the continued concerns with the state of graduate education, the respondents were happy with their training, and with the current state of the profession.

There was, however, underlying concern about whether economics is attracting the top students, but it is a concern that goes beyond economics. One student put it as follows:

Look, by every available measure I have done well. I am paid well. I can publish most of my research. I get to teach good students. I live in a nice place. That said, I recognize two things are also true: There is really no essential difference between me and hundreds/thousands of others who work as hard, but who do not have what I have. So I am quite lucky. Comparatively speaking, academic life stinks, but its most redeeming feature is the freedom. Yet, it is hard to look a bright kid in the face and recommend this job. Sure, it might work out, but for most people I am not so sure. And here is what really gets me. Our job is so much better than the other social sciences. Economics is a very good discipline at the elite level; not so for most other fields. Generally, when I look at academics, especially economists, I do not see a bright future. It is worrisome. Entrepreneurial people get tenure, then burn out. The profession does not reward enough to keep scholars going. Also, the culture of the profession can stifle creativity. It is hard for us to grow with this culture.

The reality is that economics must compete for students within the academic institutions that exist today, and given those institutions, my best students almost inevitably choose business. The best ones can get over \$100,000 a year in starting salary and have enormous job potential. It is quite hard to convince them of the value of an academic life, especially if it involves two years of work quite unrelated to the economy.

CONCLUSION

Let me conclude by briefly summarizing the major findings of this study. Overall, the economists in this study are generally satisfied with their careers and with the training they received in graduate school. They have become somewhat more conservative, and they see economics as more of a science than they did when they were in graduate school. Their views of many policies have changed and in general they have become less activist and more market oriented. The majority, especially those in policy positions, has become less interested in theory, and more interested in empirical work.

The respondents do not feel graduate school has changed—they still see it as too technical and too mathematical in the early years—but they do not convey the same urgency toward change that they expressed in the earlier study. The respondents have also broadened their perspective, and they now recognize the importance of institutions, and of knowledge of the economy, more so than they did in graduate school. There is much on-the-job training that goes on, especially for government and policy economists, and the views of government and policy economists differ from those of academics.

Thus, my interpretation of the broader issues addressed by the survey is that the economics profession has evolved since the first survey, in response to the graduate school ferment in the 1980s, albeit not in the way that many of the reform-minded economists had hoped that it would.

REFERENCES

- Colander, David. 1998. "The Sounds of Silence: The Profession's Response to the COGEE Report." *American Journal of Agricultural Economics* 80 (August): 600–607.
- Colander, David and Arjo Klamer. 1987. "The Making of an Economist." *Journal of Economic Perspectives* 1 (Fall): 95–111.
- Frey, Bruno, *et al.* 1984. "Consensus and Dissent Among Economists: An Empirical Inquiry." *American Economic Review* 74 (March): 986–94.
- Hansen, W. Lee. 1991. "The Education and Training of Economics Doctorates: Major Findings of the Executive Secretary of the American Economic Association's Commission on Graduate Education in Economics." *Journal of Economic Literature* 29 (September): 1054–87.
- Klamer, Arjo and David Colander. 1990. *The Making of an Economist*. Boulder and London: Westview Press.
- Krueger, Anne O. 1991. "Report of the Commission on Graduate Education in Economics." *Journal of Economic Literature* 29 (September): 1035–53.
- Stigler, George. 1975. *The Economist as Preacher*. Chicago: University of Chicago Press, 1982.

APPENDIX A

Follow up Survey of Economists Who Participated in the Making of an Economist Survey

1. Did you read *The Making of an Economist*? If so, did you believe it adequately captured the nature of graduate economics education in the mid 1980s?
 Yes___ No___
 Comments:

2. What is your current view of the state of graduate economics education? Has your view significantly changed since you were in graduate school? If so how?

3. What is your current view of the state of the economics profession? Has this view significantly changed since you were in graduate school? If so how?

4. What jobs have you held since graduating from college?

5. What is your current job?

6. How relevant would you say what you learned in graduate school training is for your current job?

Very relevant___ Reasonably relevant___ Not especially relevant___

Comments:

7. What is your current political orientation? Has it changed since you were in graduate school?

Radical___ Liberal___ Conservative___ Libertarian___

If so, how?

8. Please consider the following statements and compare your current opinion with the one you held before you began graduate school. Circle the most appropriate numbers. (4. Strongly agree; 3. Agree somewhat; 2. Disagree; 1. No clear opinion)

In grad school	STATEMENT	Current
4 3 2 1	The study of neoclassical economics is relevant for the economic problems of today	4 3 2 1
4 3 2 1	Economists agree on the fundamental issues	4 3 2 1
4 3 2 1	We can draw a sharp line between positive and normative economics	4 3 2 1
4 3 2 1	Learning neoclassical economics means learning a set of tools	4 3 2 1
4 3 2 1	Economics is the most scientific discipline among the social sciences	4 3 2 1

9. If you had to do it again, would you go to graduate school in economics?

Yes/No/Unsure

Comments:

10. Would you go to the same graduate school?

Yes/No/Unsure

If not, why?

11. Which economists (dead or alive) do you respect most? Please specify the characteristics that you admire in each of them.

1. _____ Characteristics:

2. _____ Characteristics:

3. _____ Characteristics:

Comments:

12. Do you consider the role that economists currently have in society relevant?

Yes/No/Uncertain

Why?

13. How would you rate the following characteristics if you were advising a student on these characteristics that would most likely place him or her on the fast track in graduate school? (Circle one for each in the first set of numbers.) How about for placing him or her on the fast track for your current job? Circle one for each in the second set of numbers.)

(4. Very important; 3. Moderately important; 2. Unimportant; 1. I don't know)

4 3 2 1	excellence in mathematics	4 3 2 1
4 3 2 1	being very knowledgeable about one particular field	4 3 2 1
4 3 2 1	ability to make connections with prominent professors	4 3 2 1
4 3 2 1	a broad knowledge of the economics literature	4 3 2 1
4 3 2 1	a thorough knowledge of the economy	
4 3 2 1		

Other (specify):

Please explain the difference, if any.

14. What is your idea of a successful economist? (Specify the characteristics.)

15. Rank the following types of articles according to *your* current interest. The journals are mentioned to give further indication of the type that is meant. (1 is most interesting, 2 is second, etc.)

___ An article on pure theory (cf. *Journal of Economic Theory*)

___ An article on pure econometrics (cf. *Econometrica*)

___ An article that combines theory and econometrics (cf. *AER*)

___ An article in applied economics (cf. *Brookings Papers*)

___ An article in non-conventional economics (cf. *Rev of Radical Pol. Economy*)

16. Do you agree with the following propositions? Circle one.

(4. I agree; 3. I agree with some reservations; 2. I disagree; 1. I have no outspoken opinion)

4 3 2 1 Fiscal policy can be an effective tool in a stabilization policy

4 3 2 1 The Federal Reserve Bank should maintain a constant growth of the money supply

4 3 2 1 The distribution of income in developed nations should be more equal

- 4 3 2 1 A minimum wage increases unemployment among young and unskilled workers
- 4 3 2 1 Tariffs and import quotas reduce general economic welfare
- 4 3 2 1 Inflation is primarily a monetary phenomenon
- 4 3 2 1 Wage-price controls should be used to control inflation
- 4 3 2 1 Worker democracy should increase labor productivity
- 4 3 2 1 The market system tends to discriminate against women
- 4 3 2 1 The capitalist system has an inherent tendency towards crisis
17. How important do you consider the following assumptions or perspectives for an economic analysis? Circle one.
4. Very important; 3. Important in some cases; 2. Unimportant; 1. I have no strong opinion)
- 4 3 2 1 The neoclassical assumption of rational behavior
- 4 3 2 1 Economic behavior according to conventions
- 4 3 2 1 The rational expectations hypothesis
- 4 3 2 1 Imperfect competition
- 4 3 2 1 Price rigidities
- 4 3 2 1 Cost mark-up pricing
- 4 3 2 1 The goal of a capitalist firm is to extract surplus value from workers.
18. Do you use the notion of individual optimizing behavior when you think or talk about non-economic issues?
[] Very often [] Infrequently [] Never
19. Would you be willing to participate in a discussion of your views at the 2001 AEA meetings?
Yes No

If yes please give a phone number or e-mail address where I can contact you.

Name:

E-mail:

Phone Number:

Additional Comments:

Please make any additional comments the might be relevant for the study here.